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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,080	02/27/2004	Katsutoshi Misuda	03500.015757.1	4301

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EXAMINER

SHEWAREGED, BETELHEM

ART UNIT PAPER NUMBER

1774

DATE MAILED: 07/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/787,080

Applicant(s)

MISUDA ET AL.

Examiner

Betelhem Shewareged

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 13-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☒ Certified copies of the priority documents have been received in Application No. 09/945,760.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                                              |                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/15/06</u> . | 6) <input type="checkbox"/> Other: _____                                                |

### **DETAILED ACTION**

1. Applicant's response filed on 05/15/2006 has been fully considered. Claims 1-12 are canceled, claim 13 is amended, and claims 13-16 are pending.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Misuda et al. (US 6,114,020), as evidenced by Hirose et al. (US 6,203,899 B1), in view of Ohbayashi et al. (US 6,492,005 B1) and Smith et al. (US 5,175,133).

4. Misuda discloses a recording medium comprising an ink receiving layer on a base material (col. 3, line 54 and col. 4, line 25). The ink receiving layer comprises alumina hydrate having a pseudoboehmite structure (col. 6, line 14), and formed by hydrolyzing aluminum alkoxide and treating the resultant hydrolyzate by deflocculation process (col. 6, line 1). The particle size of the alumina hydrate is 1µm or smaller (col. 4, line 52). The ink receiving layer further comprises a binder (col. 4, line 56), and the mixing ratio of the alumina hydrate and the binder is 1:1 to 30:1 (col. 5, line 4). Misuda uses alumina hydrate of 520 (trade name, product of Nissan Chemical Industries, Ltd.), wherein the alumina hydrate has a gamma crystal structure as the claimed invention (see Table 4 of Hirose).

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5. Misuda does not disclose the ink receiving layer as the outer layer of the recording medium. However, having the ink receiving layer as the outer layer of the recording medium is notoriously known in the ink jet recording medium art (see abstract of Ohbayashi).

6. Misuda does not disclose the claimed separation treatment. However, dewatering step such as centrifugation or filtration during production of ceramic particles such as alumina is well known (col. 7, line 64 of Smith).

### ***Response to Arguments***

7. Applicant's argument is based on that, in Misuda, the surface of the ink receiving layer does not constitute the outer surface of the recording medium. This argument is not persuasive for the following reason. The invention of Misuda has been combined with Ohbayashi to teach having the surface of the ink receiving layer as the outer surface of the recording medium is well known in the ink jet recording medium art. Furthermore, the criticality of having the ink receiving layer as the outer layer of the recording medium has never been shown in the current specification.

8. Applicant further argued that even though Hirose indicates that Alumina Sol 520 has gamma crystal structure, such indication is incorrect because The Nissan Chemical Industries' Alumina Sol product literature indicates that Alumina Sol 520 has a boehmite structure. This argument is not persuasive for the following reason. Boehmite does not have an amorphous structure, it has one type of crystalline structure. Even though the type of the crystalline structure is not expressly disclosed in the Nissan Chemical

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Industries' Alumina Sol product literature, the literature does not specifically exclude gamma crystalline structure. On the other hand, Hirose specifically teaches that Alumina Sol 520 has gamma crystal structure.

9. In addition, Applicant argues that Misuda does not disclose that the deflocculation process controls the particle size. This argument is not persuasive because the claimed process that is intended to be employed does not differentiate the claimed process from the prior art process. Grinding and deflocculating technique are equivalent techniques.

10. For the above reasons, claims 13-16 stand rejected.

### ***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

12. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betelhem Shewareged whose telephone number is 571-272-1529. The examiner can normally be reached on Mon.-Fri. 8:00AM-4:30PM.

14. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

B.S.  
July 13, 2006.

  
BETELHEM SHEWAREGED  
PRIMARY EXAMINER